Differentiating Right- and Left-Sided Outflow Tract Ventricular Arrhythmias – A Review of “Classical” ECG Signatures and Prediction Algorithms

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Idiopathic ventricular arrhythmias (ventricularectopics and ventriculartachycardia) commonly originate from the right ventricular (RV) and left ventricular (LV) outflow tracts (OT). The surface 12-lead electrocardiogram (ECG) is routinely used to localise the anatomical site of origin (SOO) prior to catheter ablation. However, the intimate and complex anatomy of the OT limits predictive value ECG criteria alone for localisation for these arrhythmias. Multiple ECG algorithms have been developed to assist pre-procedural localisation, and hence predict safety and efficacy of OT VAs. In this study, we systematically review all of the published the 12-lead ECG algorithms used to guide localisation of OT ventricular arrhythmias (Fig. 1, panels A-G).

Fig. 1.

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Does Annual Implanter Procedure Volume Predict Complications of Cardiac Devices of Different Complexity?

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Introduction: The annual procedural volume of the operator is commonly used in guidelines assessing competence in implantation of cardiac devices. This analysis looked at complication rates in a national database and compared them with the annual implant volumes for pacemakers (PPM) defibrillators (ICD) and cardiac resynchronisation devices (CRT).

Methods: The Genesis Cardiovascular Outcomes Registry (GCOR-Device) prospectively collected data on 5000 patients from December 2015–December 2018. All complications are independently assessed as major or minor. This analysis compared 30-day complications with the operator’s annual implant volume.

Results: 5000 patients and 19 implanter were included in the analysis. The complication rates for PPM did not differ with annual implant volume. The major complication rates for ICD and CRT were higher for implanter in the lowest quartile of annual device implants compared with the highest quartile.

Conclusions: Annual procedural volumes do not predict complications of PPM. Higher volume implanter of ICD and CRT have lower major complication rates.

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